



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 2459
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10 022,506	12 20 2001	Yoshikazu Miyajima	862.C2476	2840

5514 7590 07 10 2003

FITZPATRICK CELLA HARPER & SCINTO
30 ROCKEFELLER PLAZA
NEW YORK, NY 10112

EXAMINER

FULLER, RODNEY EVAN

ART UNIT PAPER NUMBER

2851

DATE MAILED: 07 10 2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/022,506	MIYAJIMA ET AL.	
	Examiner	Art Unit	
	Rodney E Fuller	2851	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 April 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 40-99 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 40-99 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 14 April 2003 is: a) ☒ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Remarks

In response to applicant's Amendment, dated April 14, 2003, the examiner acknowledges the cancellation of claims 1-39 and the addition of claims 40-99. Claims 40-99 are pending.

On page 42 of the Amendment, the applicant noted that there was an error on the Notice of References Cited by the Examiner (PTO-892 form) in that the Japanese patent document "JP 2000209838 A" was listed as "JP200209838." A corrected PTO-892 form is included with this Office Action.

The examiner acknowledges the corrections of the objections related to the Drawings set forth in the Office Action mailed January 13, 2003.

The cancellation of claims 1-39 has rendered the 35 USC 112 and 35 U.S.C. 102(b) rejections moot.

On page 43, the applicant indicated appreciation "that claims 3, 4, 6-8, 10-13, 15-32, 34, 35, 38 and 39 were indicated allowable, if rewritten in independent form." Although, the issue is moot due to the cancellation of claims 1-39, claims 3, 4, 6-8, 10-13, 15-32, 34, 35, 38, 39 were objected to in the last Office Action and not indicated allowable if rewritten in independent form.

Specification

1. A substitute specification excluding the claims is required pursuant to 37 CFR 1.125(a) because the number and nature of the amendments render it difficult to consider the application and/or to arrange the papers for printing or copying. .

A substitute specification filed under 37 CFR 1.125(a) must only contain subject matter from the original specification and any previously entered amendment under 37 CFR 1.121. If the substitute specification contains additional subject matter not of record, the substitute specification must be filed under 37 CFR 1.125(b) and must be accompanied by: 1) a statement that the substitute specification contains no new matter; and 2) a marked-up copy showing the amendments to be made via the substitute specification relative to the specification at the time the substitute specification is filed.

Claim Objections

2. Claim 49 is objected to because of the following informalities:
 - a. In claim 49, last line, the word "allow" appears to be a typographical error.Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 40-45, 48, 52 and 53 are rejected under 35 U.S.C. 102(b) as being anticipated by Chitayat (US5,519,266).

Regarding claims 40, 45, 48, 52 and 53, Chitayat discloses "a movable member (column 2, line 26) having a magnet; and a coil (column 1, line 7) wound about the

Art Unit: 2851

magnet so as to generate a drive force for driving the movable member and having a multi-layer structure formed by winding a foil-like conductor (column 6, line 27) and an insulating layer (column 8, line 47), wherein the foil like conductor has a plurality of partial coils having identical current application/rotation directions (Fig. 8, ref.# 120), and the plurality of partial coils are formed in such as way that the foil-like conductor forms a continuous, seamless strip (Fig. 8, ref.# 120)."

Regarding claim 41, Chitayat discloses "wherein the plurality of partial coils are separated from each other in a direction of a gap in a magnetic circuit formed between the partial coils and the magnet." (Fig. 8, ref.# 120 and column 8, lines 41-44)

Regarding claim 42, Chitayat discloses "wherein the foil like conductor is bent helically among the plurality of partial coils." (Fig. 8, ref.# 120)

Regarding claim 43, Chitayat discloses "wherein the foil like conductor is folded at least twice among, in a direction substantially perpendicular to, the plurality of partial coils." (Fig. 8, ref.# 120 and column 8, lines 41-44)

Regarding claim 44, Chitayat discloses "wherein the foil like conductor is extended form the interior of the plurality of partial coils so as to connect the plurality of partial coils." (Fig. 8, ref.# 120 and column 8, lines 41-44)

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 46, 47, 49, 50 and 51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chitayat (US 5,519,266).

Chitayat discloses all the structure set forth in the claims except (claim 46)

“wherein the insulating layer is made of one of a polymer material and an oxide film of the foil like conductor;” (claim 47) “wherein the insulating layer is an insulating film using a paraffin based fully aromatic polyamide fiber or resin;” (claim 49) “wherein the foil like conductor has a cladding material member containing at least one layer of a conductor made from a material selected from the group consisting of aluminum, gold, silver, ferrite alloy, Ni alloy and permalloy;” (claim 50) “wherein the cladding material includes a copper-aluminum alloy;” (claim 51) “wherein the cladding member includes a high permeability material.” It would have been obvious to one having ordinary skill in the art at the time the invention was made to select the material noted above, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

7. Claims 54-99 are rejected under 35 U.S.C. 103(a) as being unpatentable over Korenaga (US 6,002,465) in view of Chitayat (US 5,519,266).

Korenaga discloses all the structure set forth in the claims except for the feature of the foil coil ("a coil formed by winding a foil like conductor having an insulating layer in a multi-layered structure") of the present invention, as noted by the applicant on page 44 of the Amendment dated April 14, 2003. In other words, Korenaga discloses "an exposure apparatus for exposing a substrate to a pattern," which includes "a wafer stage; and a linear motor apparatus for driving the wafer stage, wherein the linear motor apparatus comprises: (i) a movable member having a magnet." Korenaga does not disclose "a coil wound about the magnet so as to generate a drive force for driving the movable member and having a multi-layered structure formed by winding a foil like conductor and an insulating layer, wherein the foil like conductor has a plurality of partial coils having identical current application/rotation directions, and the plurality of coils are formed in such a way that the foil like conductor forms a continuous, seamless strip." However, the feature of the foil coil is routine in the art as is evident from the teaching of Chitayat. (See - 35 USC § 102 section above) Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize a linear motor with a foil coil structure as noted above. The ordinary artisan would have been motivated to modify Korenaga in the manner described above to provide a motor coil which has a high conductor occupation rate per unit space and is easy to manufacture as noted by Sudo, et al. (US 4,340,833) in column 1.

Art Unit: 2851

The combination of Korenaga and Chitayat discloses all the structure set forth in the claims except (claim 63) "wherein the insulating layer is made of one of a polymer material and an oxide film of the foil like conductor;" (claim 64) "wherein the insulating layer is an insulating film using a paraffin based fully aromatic polyamide fiber or resin;" (claim 79) "wherein the cladding material includes a copper-aluminum alloy;" it would have been obvious to one having ordinary skill in the art at the time the invention was made to select the material noted above, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Art Unit: 2851

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Sudo, et al. (US 4,340,833) discloses a linear motor with a foil coil type structure.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rodney Fuller whose telephone number is (703) 306-5641. The examiner can normally be reached on Monday through Friday from 8:00 am to 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Russ Adams, can be reached on (703) 308-2847.

Rodney Fuller
Primary Examiner

A handwritten signature in black ink, appearing to read 'R. Fuller', is written over the printed name of the examiner.

June 27, 2003